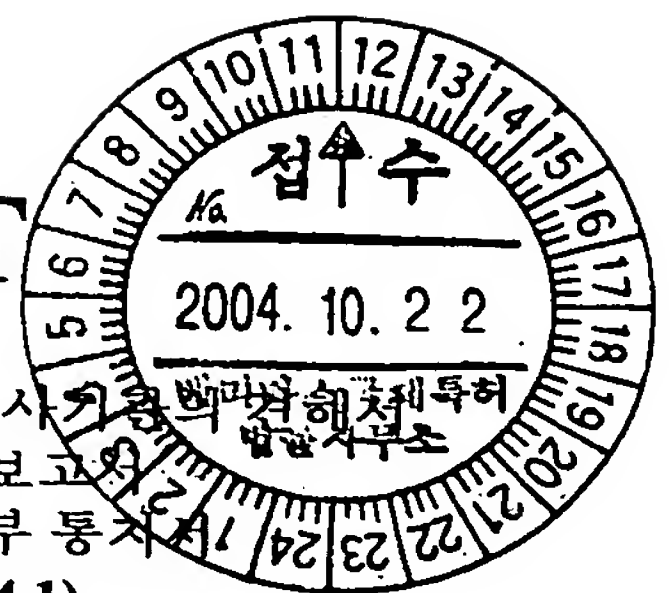


특 허 협 력 조 약
(PATENT COOPERATION TREATY)

발신 : 국제조사기관

수신 :
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PCT



국제조사보고서 및 국제조사기관에 제출된
또는 국제조사보고서
부작성 선언서 송부 통지
(PCT 규칙 44.1)

출원인 또는 대리인 서류참조기호 PCT04-034	발송일 (일/월/년) 18 OCTOBER 2004 (18.10.2004)
국제출원번호 PCT/KR2004/000056	이후의 절차에 대하여는 아래 1. 및 4. 참조
출원인 NHO, Euicheol et al	국제출원일 (일/월/년) 14 JANUARY 2004 (14.01.2004)

1. ☒ 국제보고서 및 국제조사기관의 견해서가 작성되어 이를 송부함을 출원인에게 통지합니다.
조약 제19조의 규정에 의한 보정서 및 설명서의 제출:
희망하는 경우 출원인은 국제출원의 청구의 범위를 보정할 수 있습니다.(조약규칙 46):
기간 보정서 제출기간은 통상 국제조사보고서 송부일부터 2월.

제출처 The international Bureau of WIPO
34, chemin des Colmbetts
1211 Geneva 20, Switzerland
Faxcimile No. : +41 22 740 14 35

보다 자세한 지침에 대하여는 첨부되는 용지에 기재된 설명을 참조.

2. ☐ 국제조사보고서가 작성되지 아니할 것이며 조약 제17조(2)(a)의 규정에 의한 선언서 및 국제조사기관의 견해서가 송부됨을 출원인에게 통지합니다.
3. ☐ 조약규칙 40.2의 규정에 의한 추가수수료 납부에 대한 이의신청과 관련하여 아래 사항을 출원인에게 통지합니다.
☐ 이의신청 및 이의신청에 대한 결정 통지서를 출원인이 제출한 이의신청 및 이의신청에 대한 결정 통지서의 지정관청에의 송부 신청서와 함께 국제사무국에 송부하였습니다.
☐ 이의신청에 대한 결정이 아직 이루어지지 않았습니다; 결정이 이루어지는 대로 출원인에게 통지할 것입니다.

4. 주의사항
우선일부터 18월 만료직후 국제사무국은 국제출원을 공개합니다. 공개를 하지 않거나 또는 연기할 것을 희망하는 경우에는 출원인은 국제공개의 기술적 준비가 완료되기 전에 각각의 경우에 따라 조약 규칙 90bis.1 및 90bis.3의 규정에 의한 국제출원 취하서 또는 우선권주장 취하서를 국제사무국에 제출하여야 합니다.

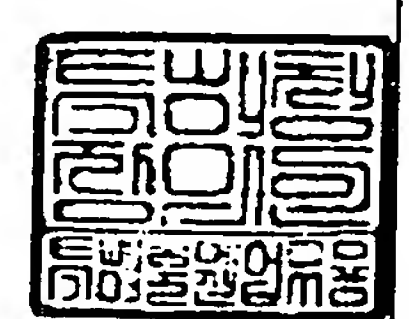
출원인은 비공식적으로 국제조사기관의 견해서에 대한 의견서를 국제사무국에 제출할 수 있다. 국제사무국은 국제예비심사보고서가 작성되지 아니했거나 작성되지 아니할 예정인 경우 당해 의견서의 사본을 모든 지정관청에 송부할 것이다. 당해 의견서는 공중에 이용가능하게 될 것이나, 우선일부터 30월 만료 전에는 그러하지 아니하다. 일부 지정관청에 대하여는 출원인이 우선일부터 30월까지 (일부관청에 대하여는 더 늦을 수도 있음) 국내단계의 개시를 연기하고자 하는 경우에는 우선일부터 19월 이내에 국제예비심사를 청구하여야 합니다; 그렇지 않은 경우 출원인은 우선일부터 20월 이내에 당해 지정관청에 대한 국내단계의 개시를 위한 규정된 절차를 밟아야 합니다.

다른 지정관청에 대하여는, 우선일부터 19월 이내에 국제예비심사를 청구하지 않더라도 30월(또는 더 늦을 수도 있음)의 기간이 적용될 것입니다.

서식 PCT/IB/301의 부속서류를 참조하기 바라며, 각 특허청마다의 적용기간에 대한 구체적인 사항은 PCT출원인 안내 제2권 국내단계 및 WIPO 인터넷 사이트를 참조하시기 바랍니다.

ISA/KR의 명칭 및 우편주소
대한민국 특허청
302-701 대한민국 대전광역시 서구 둔산동
920번지 정부대전청사
팩스 번호 82-42-472-7140

특허청장
전화번호 82-42-481-5281



PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference PCT04-034	FOR FURTHER ACTION <div style="float: right; font-size: small;">see Form PCT/ISA/220 as well as, where applicable, item 5 below.</div>	
International application No. PCT/KR2004/000056	International filing date (<i>day/month/year</i>) 14 JANUARY 2004 (14.01.2004)	(Earliest) Priority Date (<i>day/month/year</i>)
Applicant NHO, Euicheol et al		

This International search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box No. II)

3. ☐ **Unity of invention is lacking** (See Box No. III)

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 1

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

b. ☐ none of the figure is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2004/000056

A. CLASSIFICATION OF SUBJECT MATTER

IPC7 H02M 7/10

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6 H02M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

KR, JP as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	KR 2001-0113414 A (Korea Electrical Safety Co.) 28 Dec 2001 (abstract and figure 1)	1 - 13
A	JP 2003-0337160 A (Densei Ramuda, Inc.) 28 Nov 2003 (abstract and figure 1)	1 - 13
A	JP 1998-0111334 A (HakuZan Seisakusho, Inc.) 28 Apr 1998 (abstract and figure 1)	1 - 13

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

16 OCTOBER 2004 (16.10.2004)

Date of mailing of the international search report

18 OCTOBER 2004 (18.10.2004)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
920 Dunsan-dong, Seo-gu, Daejeon 302-701,
Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

LEE, Dong Hwan

Telephone No. 82-42-481-5755



PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

LEE, Chulhee

14F, Hyundai Marine & Fire Insurance Bldg., 646 Yeoksam-dong, Gangnam-gu, Seoul, 135-080, Republic of Korea

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year) **18 OCTOBER 2004 (18.10.2004)**

Applicant's or agent's file reference

PCT04-034

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/KR2004/000056

International filing date (day/month/year)

14 JANUARY 2004 (14.01.2004)

Priority date(day/month/year)

International Patent Classification (IPC) or both national classification and IPC

IPC7 H02M 7/10

Applicant

NHO, Euicheol et al

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application


2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1 bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.
For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/KR

 Korean Intellectual Property Office
920 Dunsan-dong, Seo-gu, Daejeon 302-701,
Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

LEE, Dong Hwan

Telephone No. 82-42-481-5755



**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2004/000056

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

10/586464

IAP11 Rec'd PCT/PTO 14 JUL 2006

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/KR2004/000056

**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement****1. Statement**

Novelty (N)	Claims	1 - 13	YES
	Claims		NO
Inventive step (IS)	Claims	1 - 13	YES
	Claims		NO
Industrial applicability (IA)	Claims	1 - 13	YES
	Claims		NO

2. Citations and explanations :

Reference is made to the following documents:

D1 : KR 2001-0113414(A)

D2 : JP 2003-0337160(A)

D3 : JP 1998-0111334(A)

1. D1 discloses AC power generating apparatus to test the electrical facility under the condition where the power is not supplied. This apparatus comprises micro computer, square wave generator, transformer for boosting a voltage, a rectifier for rectifying the boosted voltage, a semiconductor and transformer for operating the boosted voltage, a reactance for producing a sine wave from PWM, a capacitor for absorbing the modulation pulse, and PT for detecting an output voltage.

2. D2 discloses the apparatus for the aging test of a power-supply unit by an input power supply with less capacity. This apparatus comprises dummy power supply, 4 power-supply units in parallel.

3. D3 discloses the apparatus for testing the electric device by applying the dc voltage. This apparatus comprises multivibrator, transformer, rectifying device, semiconductor switch, timer, and two insulate resistance switch. The timer control the time period of applied voltage by setting the semiconductor switch and insulate resistance switch make it easy to measure the insulate resistance of the electric device.

None of above documents provide generating power signal with sag-swell and outage for use in testing custom power devices. Therefor the claim1 satisfies novelty, an inventive step and industrial applicability of PCT Article 33(1).

Claim2 to Claim13 concern advantageous embodiments and therefore likewise satisfy the above criteria.